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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,459	02/25/2002	Ronald E. Sweatman	HES 2000-IP-001848	4431

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02/24/2004

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EXAMINER

BOMAR, THOMAS S

ART UNIT

PAPER NUMBER

3672

DATE MAILED: 02/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/082,459

Applicant(s)

SWEATMAN ET AL.

Examiner

Shane Bomar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/28/03, 2/19/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☒ Other: See Continuation Sheet.

Continuation Sheet (PTOL-326)

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Continuation of Attachment(s) 6). Other: IDS: 8/11/03,12/12/02,12/2/03,2/25/02.

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DETAILED ACTION

Claim Objections

1. Claims 29, 33, and 37 are objected to because of the following informalities: claim 29 appears to be a duplicate of claim 10; claim 33 depends from claim 26 and also appears to be a duplicate of claim 26; claim 37 appears to be a duplicate of claim 8. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-37 are rejected under 35 U.S.C. 102(b) based upon a public use or sale of the invention. The applicant has submitted a supplemental information disclosure statement dated 02 December 2003, in which it is stated that numerous jobs were performed for customers more than one year prior to the date of filing the instant application. All of these jobs involved treating drilled zones that were losing well and formation fluids. Specifically, the jobs of 12/11/98, 01/00, 08/07/00, and 02/03/01 recite a method of discovering, diagnosing and correcting formation integrity problems in successively drilled subterranean well bore intervals comprising the steps of: (a) drilling a first well bore interval; (b) determining if well bore fluid is being lost from each drilled well bore interval or if pressurized formation fluid is flowing into each well

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bore interval, or both; (c) determining the pressure containment integrity of each well bore interval; (d) if it is determined that well bore fluid is being lost from a well bore interval or pressurized formation fluid is flowing into said well bore interval, or both, in step (b) or if it is determined that said pressure containment integrity is inadequate in step (c), providing a pumpable sealing composition for sealing said drilled well bore interval to prevent well bore fluid outflow therefrom, to prevent pressurized formation fluid inflow thereinto or to increase the pressure containment integrity of said drilled well bore interval; (e) pumping said sealing composition into said drilled well bore interval to cause said drilled well bore interval to be sealed or the pressure containment integrity of said drilled well bore interval to be increased, or both; (f) drilling a second wellbore interval; and (g) repeating steps (b), (c), (d) and (e) for the second drilled well bore interval. It is noted that the applicant asserts that the methods used in these jobs did not include the drilling of successive intervals. The examiner would like to point to the first paragraph of page 11 where it is stated that another zone lower in the hole needed treatment and steps (b) through (e) were repeated so that drilling could be resumed and the well could subsequently be drilled to total depth.

The jobs were performed for customers that depended on the treatments to save the wells and realize economic benefits, and would consequently not be considered experimental in nature since they were performed in real time and in a live drilling environment. Therefore, in view of the fact that the claimed methods were performed for customers more than one year prior to filing of the application, it is apparent to the office that the invention was used in, and known to, the public more than one year ago.

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-23, 25-30, 33, and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6,189,612 to Ward in view of US patent 5,913,364 to Sweatman.

Regarding claims 1 and 30, Ward teaches a method of discovering, diagnosing and correcting formation integrity problems in successively drilled subterranean well bore intervals comprising the steps of: (a) drilling a first well bore interval; (b) determining if well bore fluid is being lost from each drilled well bore interval or if pressurized formation fluid is flowing into each well bore interval, or both; (c) determining the pressure containment integrity of each well bore interval; (d) drilling a second wellbore interval; and (e) repeating steps (b) and (c) for the second drilled well bore interval (see col. 9, line 60 through col. 11, line 5). It is not taught that the method includes the steps of providing a pumpable sealing composition for sealing said drilled well bore interval to prevent well bore fluid outflow therefrom, to prevent pressurized formation fluid inflow thereinto or to increase the pressure containment integrity of said drilled well bore interval, or pumping said sealing composition into said drilled well bore interval to cause said drilled well bore interval to be sealed or the pressure containment integrity of said drilled well bore interval to be increased, or both.

Sweatman teaches a method of correcting formation integrity problems similar to that of Ward. Sweatman further teaches the method steps of providing a pumpable sealing composition

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for sealing said drilled well bore interval to prevent well bore fluid outflow therefrom, to prevent pressurized formation fluid inflow thereinto or to increase the pressure containment integrity of said drilled well bore interval, and pumping said sealing composition into said drilled well bore interval to cause said drilled well bore interval to be sealed or the pressure containment integrity of said drilled well bore interval to be increased, or both (see col. 1, line 42 through col. 2, line 10). It would have been obvious to one of ordinary skill in the art, having the teachings of Ward and Sweatman before him at the time the invention was made, to modify the method taught by Ward to include the method of providing a pumpable sealing material and pumping the material downhole of Sweatman, in order to obtain an improved method of sealing a subterranean zone. One would have been motivated to make such a combination because a method that provides a sealing composition that rapidly converts into high viscosity sealing masses would have been obtained, as taught by Sweatman in col. 2, lines 37-47.

Regarding claims 2 and 3, the combination applied to claim 1 teaches circulating a well bore fluid through said drilled well bore interval for a period of time sufficient to determine if the quantity of said well bore fluid being circulated decreases due to well bore fluid outflow from said drilled well bore interval or increases due to pressurized formation fluid inflow into said drilled well bore interval (see col. 8, lines 1-42 of Ward).

Regarding claim 4, the combination applied to claim 1 teaches that if it is determined that well bore fluid outflow from said drilled well bore interval is occurring or pressurized formation fluid inflow into said drilled well bore interval is occurring, or both, step (a) further comprises analyzing well logs and other relevant well bore data collected in said drilled well bore interval

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to diagnose the cause and extent of said well bore fluid outflow or formation fluid inflow, or both (see col. 8, lines 52-53 of Ward).

Regarding claims 5 and 6, the combination applied to claim 1 teaches increasing the density of or pressure exerted on a well bore fluid in said drilled well bore interval to an equivalent well bore fluid weight greater than or equal to the maximum hydrostatic pressure and friction pressure level to be exerted in said drilled well bore interval to determine if leak off occurs and the pressure containment integrity of said drilled well bore interval is inadequate (see col. 10, lines 20-43 of Ward).

Regarding claim 7, the combination applied to claim 5 teaches that if the pressure containment integrity is inadequate then step (c) further comprises analyzing well logs and other relevant well bore data collected in said drilled well bore interval to diagnose the cause and extent of said inadequate pressure integrity containment (see col. 10, lines 44-64 of Ward).

Regarding claims 8 and 37, the combination applied to claim 1 teaches that the pumpable sealing composition has the properties of rapidly converting into high viscosity sealing masses upon commingling and reacting with well bore fluids which are diverted into, seal and strengthen weak zones and openings in the drilled well bore interval through which well bore fluid outflows or pressurized formation fluid inflows into said drilled well bore interval (see col. 1, line 59 through col. 2, line 3 of Sweatman).

Regarding claims 9 and 10, the combination applied to claim 1 teaches that the pumpable sealing composition reacts with water in said drilled well bore interval and is comprised of oil, a hydratable polymer, an organophillic clay and a water swellable clay, or reacts with oil in said drilled well bore interval and is comprised of water, an aqueous rubber latex, an organophillic

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clay, sodium carbonate and a hydratable polymer (see col. 4, lines 36-47 and col. 5, lines 13-25 of Sweatman).

Regarding claim 11, the combination applied to claim 1 also teaches the method of claim 11 with the further steps of (1) running well bore logs and collecting other relevant well bore data in said first well bore interval in real time, (2) transmitting all real time data collected to a location where a specific treatment using a specific pumpable sealing composition is determined, (3) providing said specific pumpable sealing composition at said well site, and (4) performing said specific treatment including pumping said sealing composition into said first drilled well bore interval to cause said first drilled well bore interval to be sealed or the pressure containment integrity to be increased, or both (see col. 9, lines 50-59 of Ward and claim 1 of Sweatman).

Regarding claims 12 and 13, the combination applied to claim 11 teaches circulating a well bore fluid through said drilled well bore interval for a period of time sufficient to determine if the quantity of said well bore fluid being circulated decreases due to well bore fluid outflow from said drilled well bore interval or increases due to pressurized formation fluid inflow into said drilled well bore interval (see col. 8, lines 1-42 of Ward).

Regarding claim 14, the combination applied to claim 11 teaches that if it is determined that well bore fluid outflow from said drilled well bore interval is occurring or pressurized formation fluid inflow into said drilled well bore interval is occurring, or both, step (a) further comprises analyzing well logs and other relevant well bore data collected in said drilled well bore interval to diagnose the cause and extent of said well bore fluid outflow or formation fluid inflow, or both (see col. 8, lines 52-53 of Ward).

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Regarding claims 15 and 16, the combination applied to claim 11 teaches increasing the density of or pressure exerted on a well bore fluid in said drilled well bore interval to an equivalent well bore fluid weight greater than or equal to the maximum hydrostatic pressure and friction pressure level to be exerted in said drilled well bore interval to determine if leak off occurs and the pressure containment integrity of said drilled well bore interval is inadequate (see col. 10, lines 20-43 of Ward).

Regarding claim 17, the combination applied to claim 15 teaches that if the pressure containment integrity is inadequate then step (c) further comprises analyzing well logs and other relevant well bore data collected in said drilled well bore interval to diagnose the cause and extent of said inadequate pressure integrity containment (see col. 10, lines 44-64 of Ward).

Regarding claim 18, the combination applied to claim 11 teaches that the pumpable sealing composition has the properties of rapidly converting into high viscosity sealing masses upon commingling and reacting with well bore fluids which are diverted into, seal and strengthen weak zones and openings in the drilled well bore interval through which well bore fluid outflows or pressurized formation fluid inflows into said drilled well bore interval (see col. 1, line 59 through col. 2, line 3 of Sweatman).

Regarding claims 19 and 20, the combination applied to claim 11 teaches that the pumpable sealing composition reacts with water in said drilled well bore interval and is comprised of oil, a hydratable polymer, an organophillic clay and a water swellable clay, or reacts with oil in said drilled well bore interval and is comprised of water, an aqueous rubber latex, an organophillic clay, sodium carbonate and a hydratable polymer (see col. 4, lines 36-47 and col. 5, lines 13-25 of Sweatman).

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Regarding claims 21-23, the combination applied to claims 11, 7, or 4 teaches that the real time data is transmitted to a remote location wherein a specific treatment using a specific sealing composition is determined (see col. 5, lines 32-34 of Ward).

Regarding claims 25, 26, 33, 35, and 36, the combination applied to claims 1, 28, or 29 above teaches that step (a) further comprises analyzing well logs and other relevant well bore data collected in said drilled well bore interval to diagnose the cause and extent of said formation integrity problem and to transmit the data in real time to a remote location (see col. 10, lines 44-64 and col. 5, lines 32-34 of Ward).

Regarding claim 27, the combination applied to claim 1 above teaches that the pumpable sealing composition has the properties of rapidly converting into high viscosity sealing masses upon commingling and reacting with well bore fluids which are diverted into, seal and strengthen weak zones and openings in the drilled well bore interval (see col. 1, line 59 through col. 2, line 3 of Sweatman).

Regarding claims 28 and 29, the combination applied to claims 4 or 1 teaches that the pumpable sealing composition reacts with water in said drilled well bore interval and is comprised of oil, a hydratable polymer, an organophillic clay and a water swellable clay, or reacts with oil in said drilled well bore interval and is comprised of water, an aqueous rubber latex, an organophillic clay, sodium carbonate and a hydratable polymer (see col. 4, lines 36-47 and col. 5, lines 13-25 of Sweatman).

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Conclusion


6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Alexander, Elkins et al, Grosso et al, Hosie et al, Messenger, Nimerick, and Schultz et al teach various methods for determining or controlling wellbore circulation.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shane Bomar whose telephone number is 703-305-4849. The examiner can normally be reached on Monday - Thursday from 7:00am to 4:30pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on 703-308-2151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.


David J. Bagnell
Supervisory Patent Examiner
Art Unit 3672

tsb 
February 19, 2004